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## Characterization of European Female Informal Investors

By María De Las Mercedes<sup>1</sup>

### Abstract

In recent years, most sectors have benefited from an explosion in the creation of startups in different entrepreneurial environments. Along these lines, there has been a growing interest in the role of informal investors in the creation of new companies with the aim of identifying the characteristics that could help governments and regulators to promote different measures that help economic growth. Various studies identified that informal investments (that is, those that cover the financing needs of business plans in their entrepreneurial stage) contribute to entrepreneurial activity at national level. The objective of this analysis is to identify the factors that characterize the female informal investors in Europe. The analysis will be performed using data from the website "Global Entrepreneurship Monitor" (GEM) from the year 2015 at the individual level for different regions in Europe (South Europe, Central Europe and North Europe). The purpose is to evaluate characteristics of female informal investors in different European countries with the objective of facilitating the identification of potential measures or actions that could be implemented by national and local organisms to promote informal investment, and in general to support entrepreneurship.

*Keywords:* Informal investor; Europe; female; characteristics

### Introduction

In recent years, most sectors have benefited from an explosion in the creation of startups in different entrepreneurial environments. Entrepreneurial activity has been increasing in the last 15-20 years, in part, because of the technological advances, and is arguably one of the main causes of economic growth (Thurik, 2014). There are multiple studies that justify that entrepreneurship creates employment and actively promotes the modernization of the economy (Romero Martinez and Milone, 2016; Hoskisson et al, 2011; Bird et al, 2012; Carlsson et al. 2013). Financing a start-up can take different forms, including informal investors, venture capital or small business loans. An informal investor is an individual who provides capital for a start-up, to support its growth and in exchange he/she usually requests ownership equity in exchange. Several studies identify that informal investments (that is, those that cover the financing needs of business plans in their entrepreneurial stage) contribute to entrepreneurial activity at national level (Bygrave et al, 2002, Autio et al, 2003). Informal investors are an important source for financing the growth of innovative companies, and according to the European Business Angels Network (EBAN), more than \$8 billion (USD) was invested across all European countries in 2018 by informal investors

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(citation). Most activity in this segment is located in United Kingdom, Germany and Spain. An interesting fact to highlight is that near 40% of informal investors have been engaged in entrepreneurial activity in the past (GEM, 2018). The goal of this study is to evaluate the characteristics of female informal investors in different European countries using data from public databases.

## Literature review

In relation with the entrepreneurship, there has been a growing interest in the role of informal investors in the creation of new companies with the objective of identifying the characteristics of these individuals. This information could help governments and regulators to promote different measures and actions to facilitate investments using public policy support.

In the literature reviewed, the concept of “informal investor” and “business angel” is used in a similar way. The term “business angel” was first used by William Wetzel, a professor at the University of New Hampshire in a study conducted on the financing of entrepreneurs (Wetzel, 1983). This study identified “business angels” as the agents that finance companies at their earliest stage, in which other investors are reluctant to offer financing and identified characteristics that are common to them.

Regarding the use of the concept “informal investor” and “business angel” interchangeably, there are different opinions in the literature reviewed. The authors Mason and Harrison (2000) defined informal investors as “individuals with high purchasing power who, acting alone or formally or informally syndicated with others, invest their own money directly in an unquoted business with which they do not maintain a family relationship”(22). The main difference of this definition with “business angel” is that it does not specify that informal investors actively participate in the projects they finance, so it does not consider the transfer of smart capital. This definition of “informal investor” also does not consider investments performed in businesses from family or friends. However, not all authors think in this way, there are several authors who consider that investments in businesses of family, friends or people close to the entrepreneur (3Fs) are also a form of investment and should be included; there is currently debate on the topic. For example, in the study conducted by Avdeitchikova et al. (2008), a subdivision of the informal financing segment is proposed. The main relevant figures proposed are:

- **Business angel**, as investors who are actively involved and contribute smart capital to projects.
- **Informal investors**: it is a group that includes not only the “business angel”, but also the private investors that have a non-active involvement with the projects in which they invest.
- **Non-institutional investors**: This category includes investments made by family and friends of the partners who lead the project.

However, according to the GEM project, a broad definition of the “informal investor” concept presented by Mason and Harrison (2000) is used and what is known as the 3Fs are included for its acronym in English (Family, Friends, Fools). This inclusion is because the micro-investments of these agents represent 80% of the external resources that start-ups need and therefore are important enough to be included in informal financing (Reynolds et al, 2003).

In recent years, researchers have studied the characteristics of “informal investors” in several countries such as the United States (Aram, 1989), United Kingdom (Harrison and Mason, 1992), Sweden (Landström, 1993), Finland (Lumme et al, 1996), Japan, (Tashiro, 1999), or Singapore (Wong and Ho, 2007). From those studies, the typical profile of “informal investor” is defined as an entrepreneur or executive man (active or already retired) with a high level of income, entrepreneurial experience and extensive experience in the business world with the will to invest between 20,000 and 250,000 euros per project.

Among the studies that try to identify the factors that define the profile of an “informal investor”, there are some that try to develop a classification system for these agents, where the first analysis of this type stands out by establishing 10 different categories (Gaston, 1989). Subsequently, other authors established other types of classifications: the classification system of 9 types (Benjamin and Margulis, 2005), the one of 3 types (Mason, 2006), and the one of 5 types (Evanson and Beroff, 1998) being relevant.

According to the 2019 report of the Spanish Association of Business Angels, in Spain, 45% of investors have less than 5 investments. Another interesting fact highlighted was that 91% of investors considered training as a relevant point and that 70% have experience professional related to technology and finance. In general, the investors showed a limited annual investment capacity, as 67% had less than 100,000 euros worth of investments per year.

Bertoni et al (2015), analyzed the different types of venture capital investors in Europe: independent, corporate, affiliated with a bank and government. The results indicated that the types of venture capital investors in Europe differ substantially in their investment patterns compared to one another. It also highlighted that the investment patterns of the different venture capital investors are stable over time and consistent by class across European countries. Finally, it postulated that the investment patterns of the different types of venture capital investors in Europe are significantly different from those observed in the United States.

The concept of venture capital is defined as investments that are performed through the purchase of shares with the aim of financing small and medium-sized companies, generally startups that are usually companies with a few years of life and in their early stages of development. This type of financing was conceived in 1946 in the United States and its growth accelerated in the late 1970s. However, in Europe, this type of financing option did not begin until the 1980s.

Gabison (2015) analyzed the characteristics and operation of venture capital funds, focusing on the relationship between venture capital funds and innovation. The research discussion sought to identify whether venture capital funds stimulate innovative companies to innovate or if they successfully predict which companies will innovate the most. The results concluded that venture capital investors must overcome information asymmetries to invest, postulating that the origin of the fund (public, private or mixed) directly affects growth. This study also confirmed that venture capital funds should monitor their investment since most venture capital markets remain local, stating that even within Europe, most venture capital funds invest in the local market.

Other authors also analyzed the relationship between venture capital and public policies. For example, McGlue (2002), considered the key questions faced by policy makers in the European Union to stimulate venture capital and proposed three conclusions. First, the monitoring of the SMEs in the European Union is important to control and measure their growth, independently of the results from the high-tech companies. Second, venture capital is needed to support early-stage companies with good potential growth. Third, the primary focus of evaluation has so far been limited to formal venture capital. A key element in the success of the United States in this field has been the growth of informal venture capital through access to “business angels”.

## Methods and Data

The purpose of this study is to identify the main characteristics of female informal investors in Europe. The data utilized in this study was extracted from the “Global Entrepreneurship Monitor” database, the largest survey-based study of entrepreneurship, including data from more than 60 countries. Most of the questions of the mentioned survey were related to entrepreneurial attitudes, activity and aspirations. The countries in the scope of this analysis were Spain, Italy, Portugal, Germany, France, Switzerland, Finland, Denmark, Sweden, Poland, Greece, Hungary. The data analyzed corresponds to the individual survey (APS) performed in 2015, last year with available individual information. The following table (table 1) shows the variables that have been considered in this work:

**Table 1. Variables considered in this analysis**

Variable	Description	Source
age	Age of the respondent	GEM Database
hhsiz	Household size	GEM Database
gemwork	Working status. It takes 1 if the respondent is a full-time worker, 0 otherwise.	GEM Database
gemeduc	Education level. 1 if the respondent has at least secondary level education	GEM Database
gemhhinc	Annual household income. 1 if it is in the upper 33 percentile	GEM Database
ownmge	1 if the respondent has managed a business	GEM Database
suskil	1 if the respondent thinks that he/she has the skills to become entrepreneur	GEM Database
fearfail	1 if the respondent is afraid of failure when becoming entrepreneur	GEM Database
knowent	1 if the respondent personally knows someone who started a firm in the past two years	GEM Database
busang	1 if the respondent has participated as an “informal investor” in the last 3 years	GEM Database

The model utilized in this analysis was a logit regression, in which the dependent variable is the “busang” variable. This variable quantifies if the respondent has been an “informal investor” in the last 3 years. The value is equal to 0 if the respondent has not been an “informal investor” and it is equal to 1 if the respondent has acted as an “informal investor” in the last 3 years.

The general model can be defined with the following equation:

*Female Informal investor*

$$= \alpha + \beta_1 age + \beta_2 age^2 + \beta_3 hhsize + \beta_4 gemwork + \beta_5 gemeduc + \beta_6 gemhhinc + \beta_7 ownmge + \beta_8 suskill + \beta_9 knowent + \beta_{10} fearfail + \varepsilon$$

## Results

The analysis considered the regional division of the countries into Southern, Central and Northern Europe. These regions include the countries identified below:

- South of Europe: Spain, Portugal, Italy
  - Central Europe: Germany, Switzerland, Poland, Hungary
  - North of Europe: Finland, Norway, Sweden

The analysis started by evaluating some fundamental statistical characteristics of the data analyzed by country. First, (see Table 2) the average age of informal female investors in the countries analyzed was evaluated.

**Table 2. Mean age of the female informal investors in each country**

Country	Mean age (years)
Spain	47.71
Portugal	43.36
Italy	44.9
Germany	45
Switzerland	54.3
Finland	48.55
Sweden	49.71
Norway	51.6
Poland	40.79
Hungary	40.33

While the majority of countries had mean ages in the 40s, Norway and Switzerland had average ages in the 50s with Switzerland having the highest average age at 54.3 years.

Tables 3, 4 and 5 present the results of the logistic regression for each of the countries evaluated.

**Table 3. Result from the logit model for the Southern European countries**

Variable	Spain		Italy		Portugal	
s	Coef.	P > z	Coef.	P > z	Coef.	P > z
gemwork	0.4170	0.00456	1.4122	0.0465	0.2748	0.7454
gemhhinc	0.4364	0.0027	0.1287	0.8713	0.4899	0.4755
uneduc	0.4807	0.0011	-1.1126	0.0832	1.0673	0.2656
suskill	0.1966	0.1426	1.0102	0.1256	0.6387	0.4042

knowent	1.2611	0.0000	2.5782	0.0005	1.1117	0.1253
ownmge	-0.7887	0.0016	0.8408	0.3256	0.6343	0.3750
age	-0.2778	0.0000	-0.4229	0.0000	-	0.0002
					0.3355	
<i>age</i> <sup>2</sup>	0.0035	0.0000	0.0052	0.0000	0.0042	0.0008
hhsiz	0.1116	0.0280	0.4299	0.1257	-	0.7721
					0.0781	
fearfail	-0.0740	0.5676	0.3814	0.5968	0.0797	0.8984

**Table 4. Result from the logit model for the Northern European countries**

Variables	Sweden		Norway		Finland	
	Coef.	P > z	Coef.	P > z	Coef.	P > z
gemwork	0.2748	0.7454	0.1298	0.8747	0.3635	0.5077
gemhhinc	0.4899	0.4755	1.7113	0.0264	0.5632	0.2880
uneduc	1.0673	0.2656	-0.3777	0.8209	-0.0340	0.9661
suskill	0.6387	0.4042	1.5215	0.0474	0.4209	0.4114
nnowent	1.1117	0.1253	1.3385	0.0865	0.2534	0.5987
ownmge	0.6343	0.3750	-0.3266	0.7273	-1.1025	0.3159
age	-0.3355	0.0002	-0.3535	0.0007	-0.2438	0.0001
<i>age</i> <sup>2</sup>	0.0042	0.0008	0.0044	0.0010	0.0031	0.0003
hhsiz	-0.0781	0.7721	-0.0318	0.9191	-0.1005	0.6471
fearfail	0.0797	0.8984	0.5604	0.4005	-0.3071	0.5338

**Table 5. Result from the logit model for the Central European countries**

Variables	Germany		Switzerland		Hungary		Poland	
	Coef.	P > z	Coef.	P > z	Coef.	P > z	Coef.	P > z
gemwork	-0.0857	0.8022	-0.9226	0.0146	0.2336	0.5850	1.3060	0.0397
gemhhinc	0.7219	0.0479	0.8351	0.0129	0.0770	0.8752	-	0.8635
							0.0836	
uneduc	-0.4450	0.3009	-0.4190	0.3292	-0.1760	0.6771	-	0.8194
							0.2917	
suskill	0.2545	0.4533	0.4583	0.1338	0.9941	0.0117	1.9977	0.0034
knowent	1.5619	0.0000	1.2233	0.0001	1.0032	0.0095	1.3859	0.0074
ownmge	0.0098	0.9839	-0.0009	0.9987	-1.1177	0.1643	-	0.9894
							0.0076	
age	-0.1668	0.0000	-0.1158	0.0000	-0.2025	0.0000	-	0.0001
							0.3070	
<i>age</i> <sup>2</sup>	0.0020	0.0001	0.0011	0.0001	0.0023	0.0001	0.0036	0.0005
hhsiz	-0.2616	0.0803	-0.1466	0.2502	0.0801	0.4770	-	0.7611
							0.0282	
fearfail	-0.2212	0.4929	0.0951	0.7355	-0.5741	0.1542	-	0.2471
							0.5154	

According to the results obtained, it can be concluded that in the study of the influence of the most relevant factors that affect female informal investors, for all countries in scope, age (*age*)

variable) has a negative and significant influence, while age squared (variable *age*<sup>2</sup>) is a significant variable with a positive influence, which implies that the older the women, the less possibility of acting as an informal investor. The relationship between the decision to become a female informal investor and the age has a quadratic relationship, in other words, the mentioned relationship is decreasing at increasing rates. Once again, Switzerland has the lowest coefficient for the age variable, in absolute value, this value being (-0.1158), reflecting that Switzerland is the country where the influence of age is the least significant.

Evaluating the variable related to household size (variable *hhsiz*), it is observed that the mentioned variable is only significant in Spain and that, contrary to what might be expected, it has a positive influence. In the group of countries analyzed, the level of education (*uneduc* variable) is a significant variable in the decision to become a female informal investor only in Spain, highlighting that this variable has a positive influence on the action of becoming an informal investor. Specifically, in Spain, this variable is one of the most influential, only behind the *knowent* variable, with a coefficient of 0.48. Analyzing the variable related to salary (*gemhhinc* variable), the effect of the respondent's salary on the decision to act as an informal investor is evaluated. The *gemhhinc* variable takes the value 1, in the case that the respondent has a salary in the highest 33rd percentile and 0, in any other case. This variable is significant in Spain, Norway, Germany and Switzerland with a positive effect on all of them. The absolute value of the coefficient of the analyzed variable in the results from Norway stands out especially, taking an absolute value of 1.7113.

Employment status, represented by the *gemwork* variable, is a significant variable, only in Spain, Italy, Switzerland and Poland, where its influence is positive in all of them. This may be because full-time jobs allow those individuals to save money and find ways to invest their savings, taking risks by becoming an informal investor.

Having managed a company (*ownmge* variable) is only a significant variable in Spain, influencing, contrary to what could be considered, negatively the decision to become an informal investor. Knowing entrepreneurs (*knowent* variable) is a significant variable in Spain, Italy, Germany, Switzerland, Hungary and Poland, has a positive influence. Confidence, represented in the analysis with the *suskill* variable, is a significant variable in Norway, Hungary and Poland. For all of them, in which the variable is significant, and its influence is positive. Moreover, fear of failure (*fearfail*) is not a significant variable in any of the countries analyzed.

## Conclusion

The analysis performed has compared the factors that influence a woman in the decision to become an informal investor in selected European countries based on data available from 2015. This analysis provides insight into an overlooked segment of informal investing, as much of the research remains focused on men.

The outcome of the present analysis, though interesting in providing demographic and national details, remains foundational. Two major results stand out from this analysis. First, being a woman is a negative factor when deciding to act as an informal investor, in line with other studies that evaluate the propensity to become entrepreneur (Barrachina et al, 2021). Second conclusion is that there is data related to informal investor, however, there is a huge field to improve the analysis quality associated to this field.

Next steps to build on the discussion would be to create a database that provides greater granularity by gender. The proposed database would benefit from including institutions and



organizations that work closely with entrepreneurs, both at national and European level. Future research related to gender differences in investing profile could also include case studies and interviews to assess and identify interests or relationships that influence investment. Relationship between national-level taxes (at income or corporate level) and level of investment in entrepreneurship could be another interesting point to be evaluated.

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